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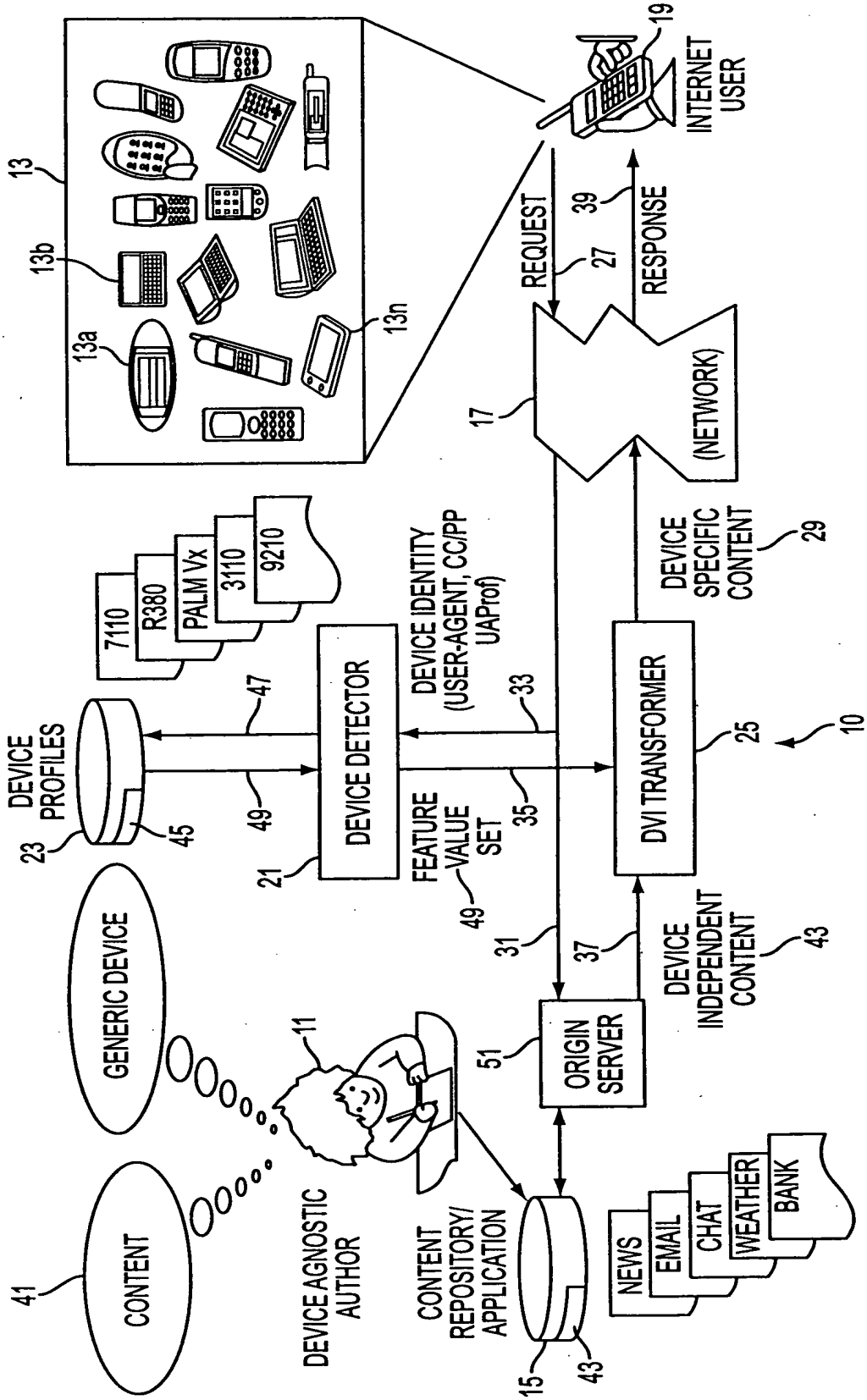

FIG. 1

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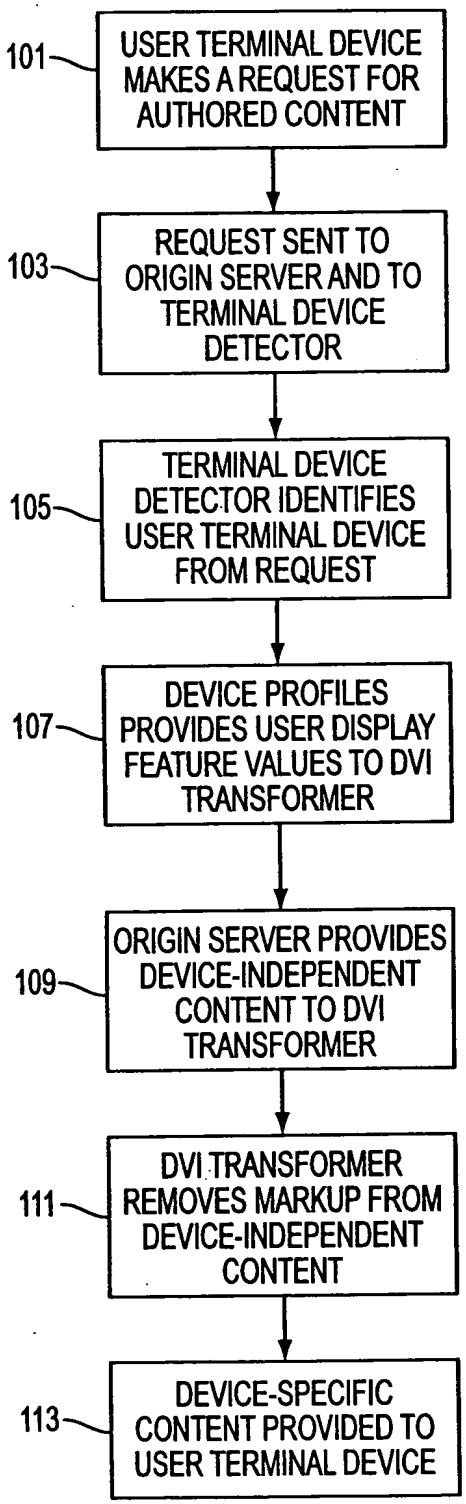

FIG. 2

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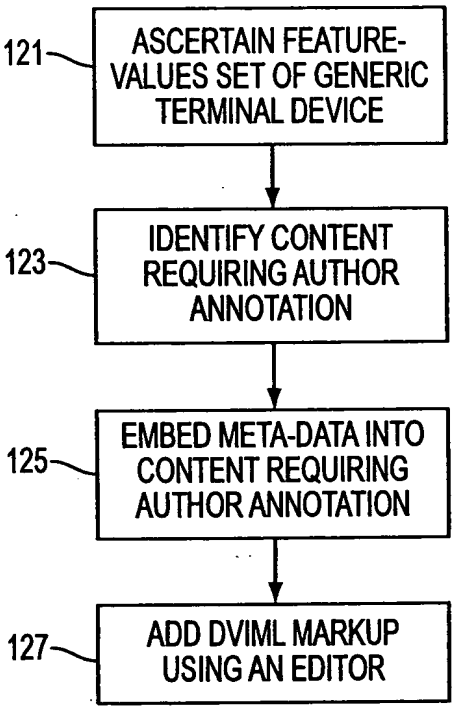

FIG. 3

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```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE dviml PUBLIC "-//DVIML//DTD DVIML 0.1//EN"
"http://nda.nokia.com/DTD/dviml0.1xml">
<dviml version="0.10">
    Giant Deep-Sea Creature
    <area concat="true">
        <segment char="200">
        Amazes Spanish Scientists
      </segment>
      <segment char="200">
        Friday November 3 4:35 PM ET MADRID (Reuters) <br/>
      <segment>
      <segment char="50">
        Fishermen off northern Spain have captured a giant
        specimen of a strange, light-emitting, deep sea
        cephalopod, scientists said Friday.
      </segment>
      <segment char="100">
        The octopus-like creature, a taningia danae, weighs in
        at 275 pounds, measures seven feet and is easily the
        biggest of its type discovered. Disappointingly for big
        eaters near the Asturian port of Ribadesella it will not
        end up on their plates, but will be preserved and
        displayed in a marine center whose most impressive
        cephalopod to date was a mere 140 pound example.
      </segment>
    </area>
    <area concat="false">
        <segment char="50">
        picture50
      </segment>
      <segment char="200">
      picture200
      </segment>
    </area>
</dviml>
```

FIG. 4

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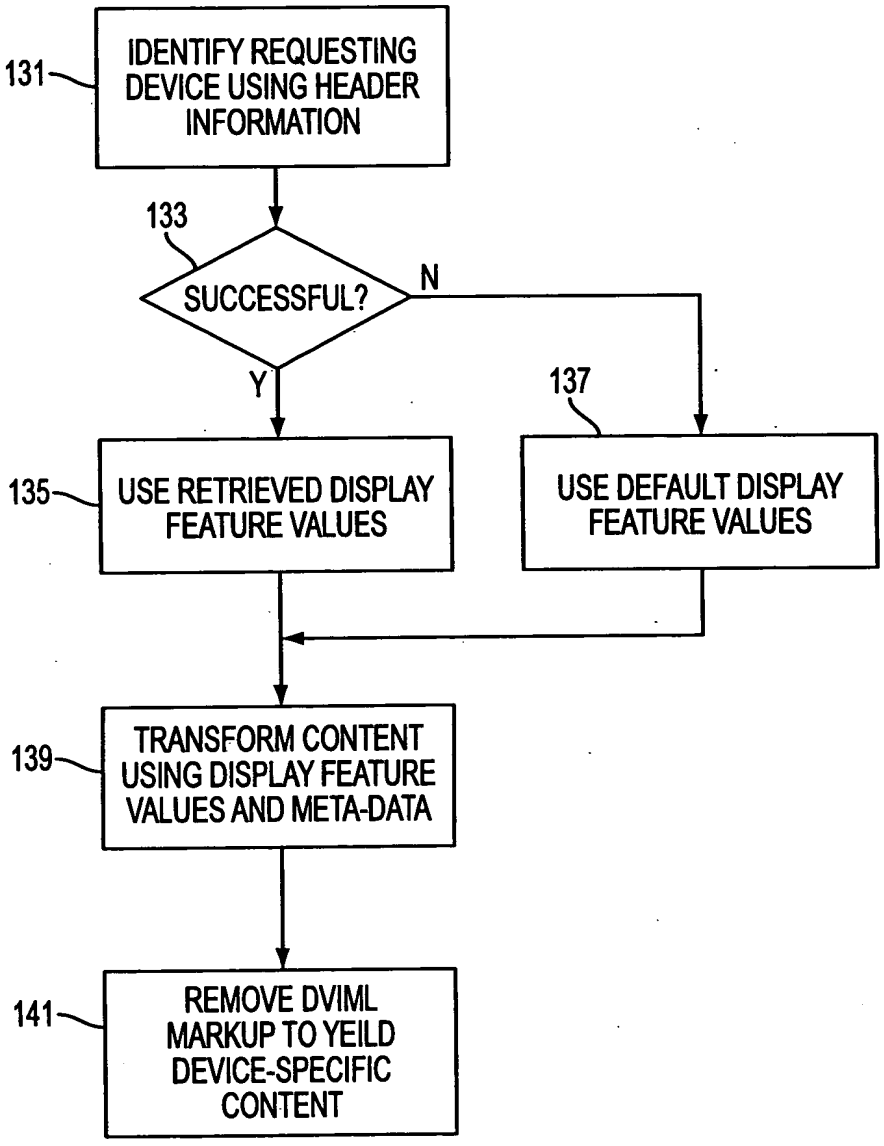

FIG. 5

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```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.1//EN"
"http://www.wapforum.org/DTD/wml_1.2.xml">
<wml xmlns:nda="http://nda.nokia.com/deviceAdapter">
  <card>
   <p>
     Giant Deep-Sea Creature
     <nda:area nda:concat="true">
          <nda:segment nda:char="200">
          Amazes Spanish Scientists
        </nda:segment>
     </nda:area>
   </p>
   <p>
     <nda:area nda:concat="true">
       <nda:segment nda:char="200">
          Friday November 3 4:35 PM ET
       MADRID (Reuters) <br/>
       </nda:segment>
       <nda:segment nda:char="50">
            Fishermen off northern Spain have captured a giant
            specimen of a strange, light-emitting, deep sea
            cephalopod, scientists said Friday.
       </nda:segment>
       <nda:segment nda:char="100">
            The octopus-like creature, a taningia danae, weighs in
            at 275 pounds, measures seven feet and is easily the
            biggest of its type discovered. Disappointingly for big
            eaters near the Asturian port of Ribadesella it will not
            end up on their plates, but will be preserved and
            displayed in a marine center whose most impressive
            cephalopod to date was a mere 140 pound example.
       </nda:segment>
     </nda:area>

     <nda:area nda:concat="false">
       <nda:segment nda:char="50">
         <a href="picture50"> Picture </a>
       </nda:segment>
       <nda:segment nda:char="200">
         <a href="picture200"> Picture </a>
       </nda:segment>
     </nda:area>
   </p>
  </card>

</wml>
```

FIG. 6

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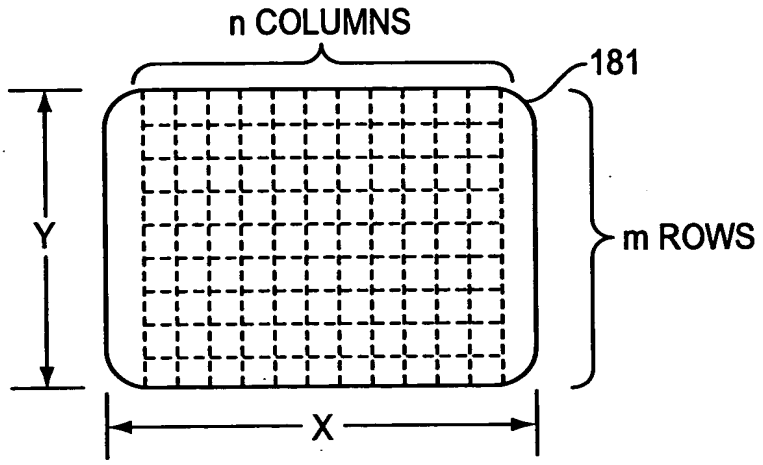

FIG. 8

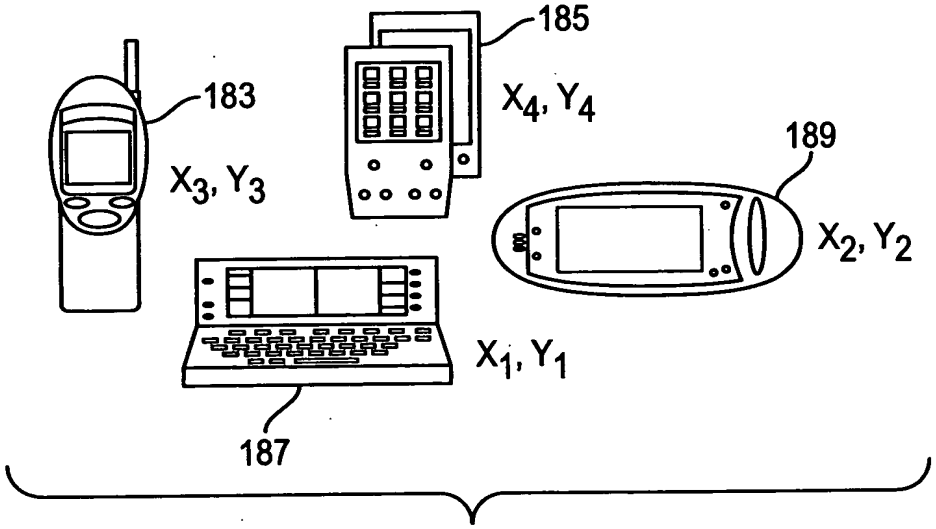

FIG. 9

OIPE
SEP 0 3 2002
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191

CONTENT CHARACTERISTIC	RELEVANT DEVICE DISPLAY ATTRIBUTE	DVIML ELEMENT	VALUE FOR ACTUAL DEVICE	VALUE FOR GENERIC DEVICE
IMAGES (FIXED FORM)	X, Y	<RIGID>	ZERO TO INFINITY AND ALL INTEGERS IN BETWEEN (0 TO ∞)	SAME AS FOR THE ACTUAL DEVICE.
TABLES AND VECTOR GRAPHICS (GENERATED FIXED FORM)	ASPECT RATIO	<SHAPE>	ZERO TO INFINITY AND ALL NUMBERS IN BETWEEN (0 TO ∞)	SQUARE PORTRAIT LANDSCAPE
COLUMNS (Y-AXIS FREE FORM)	COLUMNS	<COLUMS>	ZERO TO INFINITY AND ALL INTEGERS IN BETWEEN (0 TO ∞)	5 10 20+
LISTS OR ROWS (X-AXIS FREE FORM)	ROWS	<LIST>	ZERO TO INFINITY AND ALL INTEGERS IN BETWEEN (0 TO ∞)	5 10 20+
TEXT (BI-AXIALLY FREE FORM)	CHAR COUNT	<AREA>	ZERO TO INFINITY AND ALL INTEGERS IN BETWEEN (0 TO ∞)	50 100 200+

FIG. 10

OIPE
SEP 0 3 2002
PATENT & TRADEMARK OFFICE 2097

04/881/60

193

FEATURE	POLYMORPH	VALUE
DISPLAY SIZE	X, Y	160, 160
	ASPECT RATIO	SQUARE
	COLUMNS	20
	ROWS	20
	CHAR COUNT	200+
GRAPHICS		YES
COLOR		NO
KEYBOARD INPUT		NO
SCREEN INPUT		YES

FIG. 11

C65188/60

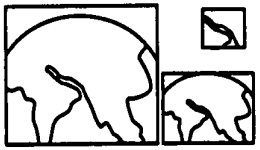
PATENT & TRADEMARK OFFICE SEP 03 2002 OIPE JC97

U.S. Serial No.: 09/881,597 Atty. Dkt. No.: 005288.0
Inventor: Alamgir FAROUK
Title: FEATURE-BASED DEVICE DESCRIPTION AND CONTENT ANNOTATION

151 FEATURES	153 VALUES
COLOR CAPABILITY	BOOLEAN
GRAPHICS	NONE, LOW, MEDIUM, HIGH
DISPLAY SIZE	
INPUT SYSTEM	KEYPAD, KEYBOARD, STYLUS
NETWORK BANDWIDTH	2G, 2.5G, 3G
(OTHER FEATURES)	(VALUES OF FEATURE)

155

150

161 CONTENT-SPECIFIC FORMS OF FEATURE	163 DVIML ELEMENTS	165 CONTENT EXAMPLE
X, Y	<nda:rigid>	 171
ASPECT RATIO*Y, Y	<nda:shape>	C1 C2 C3 C4 / C1 C2 C3 C4 / C1 C2 C3 C4 R1 r1 r1 / R2 r2 r2 / R3 r3 r3 / R4 r4 r4 173
COLUMNS*CHAR WIDTH, Y	<nda:columns>	C1 C2 C3 C4 / C1 C2 C3 C4 / C1 C2 C3 C4 175
X, ROWS*CHAR HEIGHT	<nda:list>	MENU ITEM 1 MENU ITEM 2 MENU ITEM 3 MENU ITEM 4 MENU ITEM 5 MENU ITEM 6 177
X, $\frac{\text{CHAR COUNT}}{\text{COLUMNS}}$*CHAR HEIGHT	<nda:area>	THE FEATURE UTILIZATION SYSTEM PROPOSED IN ROSETTA HAS TWO KEY IDEAS THE DEVICE IS PRESENTED AS AN ABSTRACT DEVICE WHICH HAS 'DEVELOPER-FRIENDLY' OR 'AUTHOR-FRIENDLY' FEATURES, SHIELDING THE AUTHOR FROM BRAND-NAMES AND MINOR DIFFERENCES BETWEEN DEVICES. THE CONTENT IS CLASSIFIED INTO DIFFERENT TYPES WHICH ARE, ON THE OTHER HAND, 'DEVICE-FRIENDLY'. THESE TWO KEY IDEAS ARE BOTH AIMED AT MAKING IT EASIER TO DEVELOP CONTENT FOR THE MULTI DEVICE WORLD OF THE PRESENT DAY. 179

160

FIG. 7

OIPE
SEP 0 3 2002
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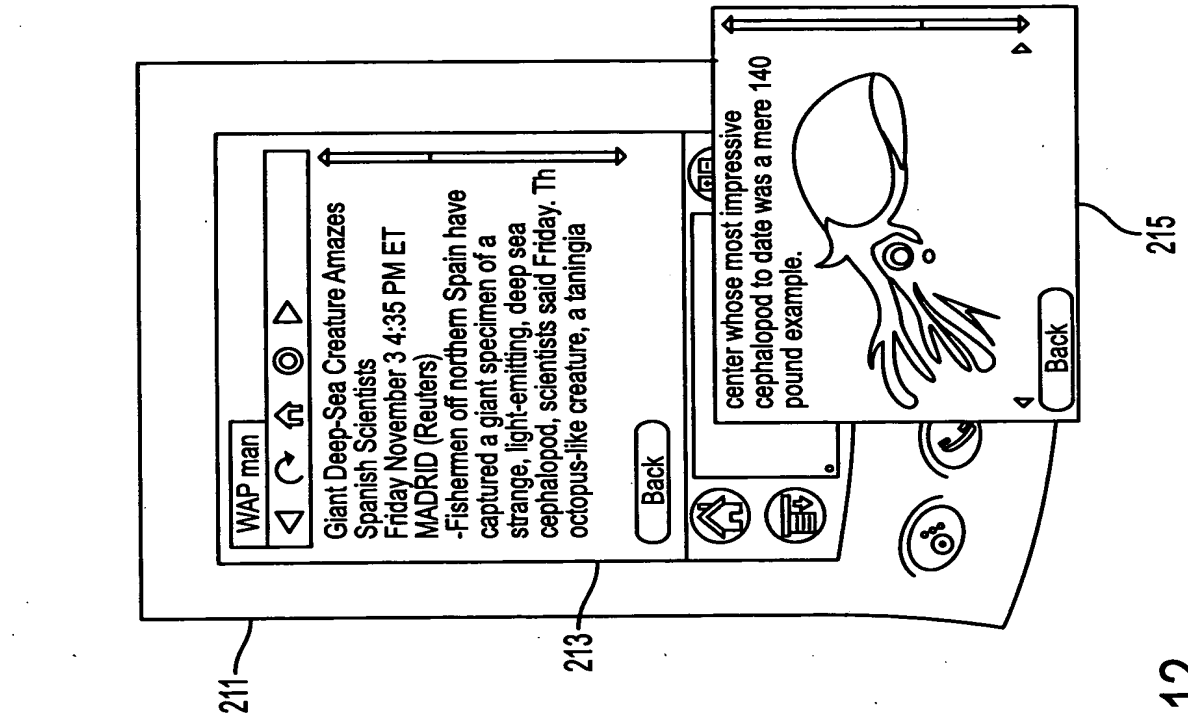
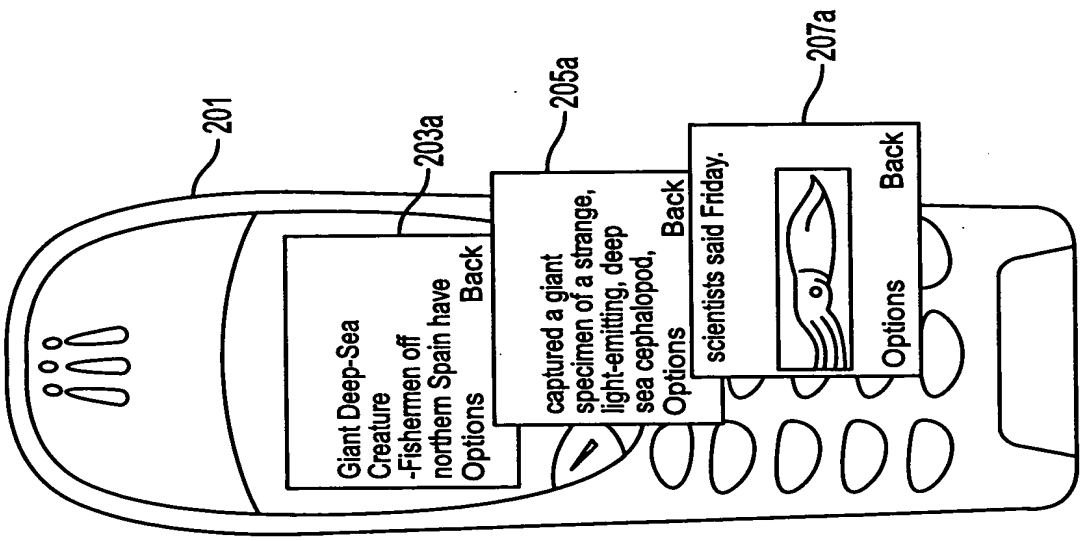


FIG 12



09/881,597

OIPE
SEP 0 3 2002
PATENT & TRADEMARK OFFICE
JC97


```
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.1//EN"
"http://www.wapforum.org/DTD/wml_1.2.xml">
<wml xmlns:nda="http://nda.nokia.com/deviceAdapter">
 <card id="Forecast" newcontext="true" title="Forecast">
  <p align="center">
   <nda:shape>
    <nda:pick nda:aspect_ratio="landscape">
     <table align="CCCCC" columns="5">
      <tr>
       <td>M</td>
       <td>T</td>
       <td>W</td>
       <td>Th</td>
       <td>S</td>
      </tr>
      <tr>
       <td><img alt="clouds"
src="../images/weather/clouds.wbmp"></img></td>
       <td><img alt="mixed"
src="../images/weather/mixed.wbmp"></img></td>
       <td><img alt="ptcloudy"
src="../images/weather/ptcloudy.wbmp"></img></td>
       <td><img alt="rain"
src="../images/weather/rain.wbmp"></img></td>
       <td><img alt="sun"
src="../images/weather/sun.wbmp"></img></td>
      </tr>
      <tr>
       <td>78 F</td>
       <td>89 F</td>
       <td>95 F</td>
       <td>88 F</td>
       <td>79 F</td>
      </tr>
      <tr>
       <td>68 F</td>
       <td>69 F</td>
       <td>75 F</td>
       <td>68 F</td>
       <td>65 F</td>
      </tr>
     </table>
```

FIG. 13A

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SEP 0 3 2002
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```
            </nda:pick>
            <nda:pick nda:aspect_ratio="portrait">
              <table align="LCR" columns="3">
                <tr>
                  <td>M M</td>
                  <td><img alt="clouds"
src="../images/weather/clouds.wbmp"></img></td>
                  <td>Hi  78 F<br></br>Lo  68 F</td>
                </tr>
                <tr>
                  <td>T</td>
                  <td><img alt="mixed"
src="../images/weather/mixed.wbmp"></img></td>
                  <td>Hi  89 F<br></br>Lo  69 F</td>
                </tr>
                <tr>
                  <td>W</td>
                  <td><img alt="ptcloudy"
src="../images/weather/ptcloudy.wbmp"></img></td>
                  <td>Hi  95 F<br></br>Lo  75 F</td>
                </tr>
                <tr>
                  <td>Th</td>
                  <td><img alt="rain"
src="../images/weather/rain.wbmp"></img></td>
                  <td>Hi  88 F<br></br>Lo  68 F</td>
                </tr>
                <tr>
                  <td>S</td>
                  <td><img alt="sun"
src="../images/weather/sun.wbmp"></img></td>
                  <td>Hi  79 F<br></br>Lo  65 F</td>
                </tr>
              </table>
              </nda:pick>
            </nda:shape>
          </p>
        </card>
      </wml>
```

FIG. 13B

OIPE
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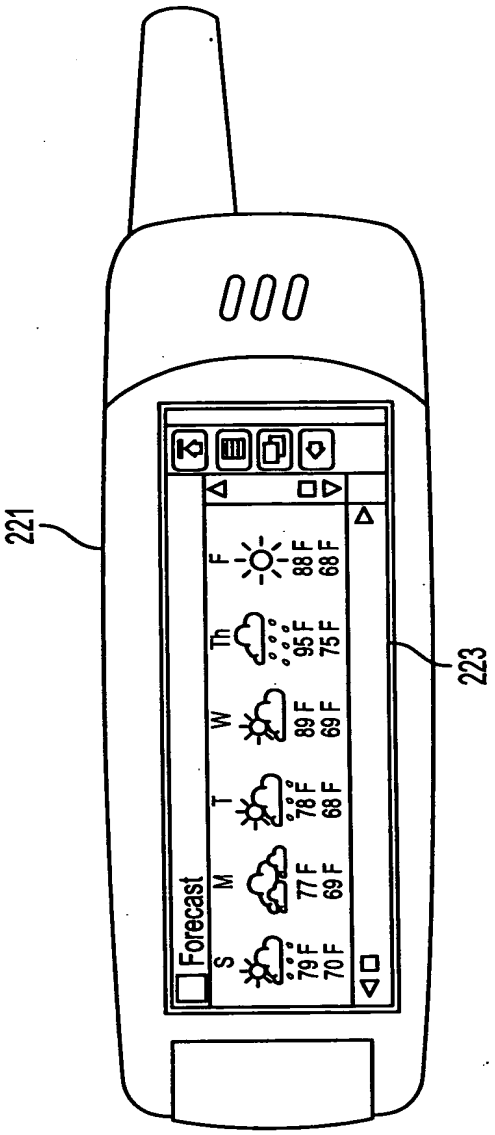
PATENT & TRADEMARK OFFICE



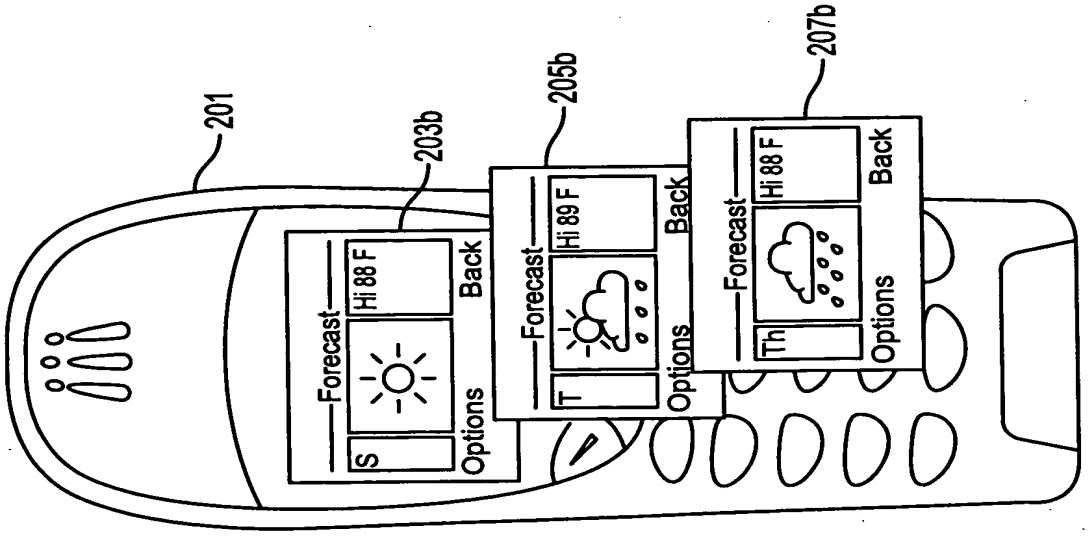


FIG 14

605 188 | 60

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CONSIDER AN OBJECT WHICH HAS FOUR FEATURES.

FEATURES = α β χ δ

FIG. 15

L451888/50

EACH FEATURE MAY TAKE DIFFERENT VALUES, DENOTED BY A DIFFERENT 'FONT' HERE.

α	β	χ	δ
A	B	C	D
$\mathcal{A}$	$\mathcal{B}$	$\mathcal{C}$	$\mathcal{D}$
A	B	C	D
$\mathcal{A}$	$\mathcal{B}$	$\mathcal{C}$	$\mathcal{D}$
A	B	C	D
$\mathscr{A}$	$\mathscr{B}$	$\mathscr{C}$	$\mathscr{D}$

FIG. 16

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JC67

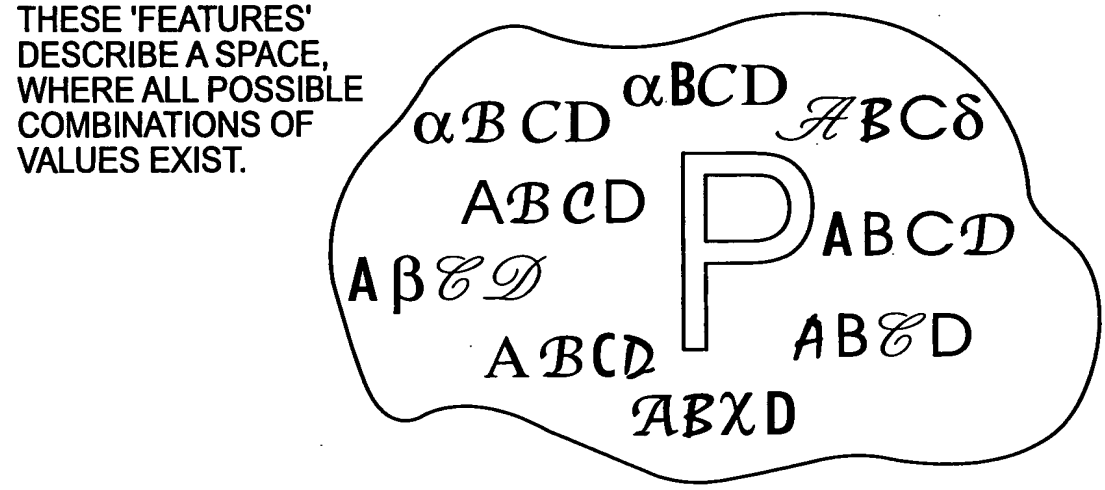

FIG. 17

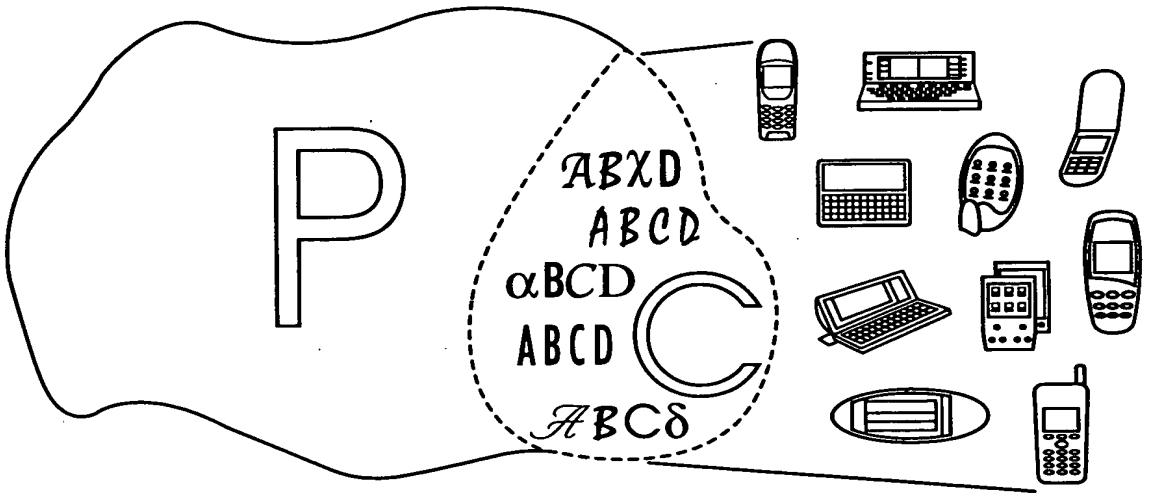

FIG. 18

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NEW FEATURE, E

NEW FEATURES EXTEND THE 'SPACE'. UNTIL WE EXTEND OUR 'ALPHABET' WE DO NOT RECOGNIZE THIS SPACE.

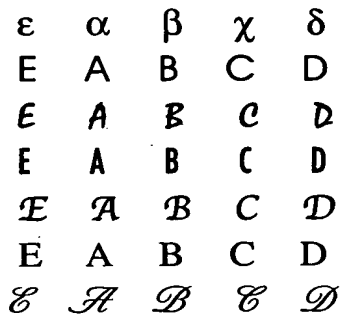

FIG. 19

CONVERGED FEATURE, D

OLD FEATURES MAY CONVERGE TO A SINGLE VALUE, AND HENCE NO LONGER BE OF INTEREST.

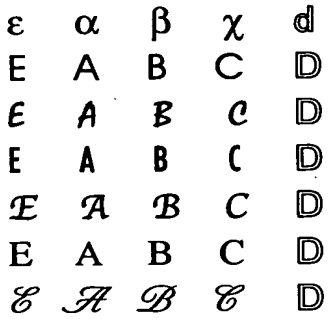

FIG. 20

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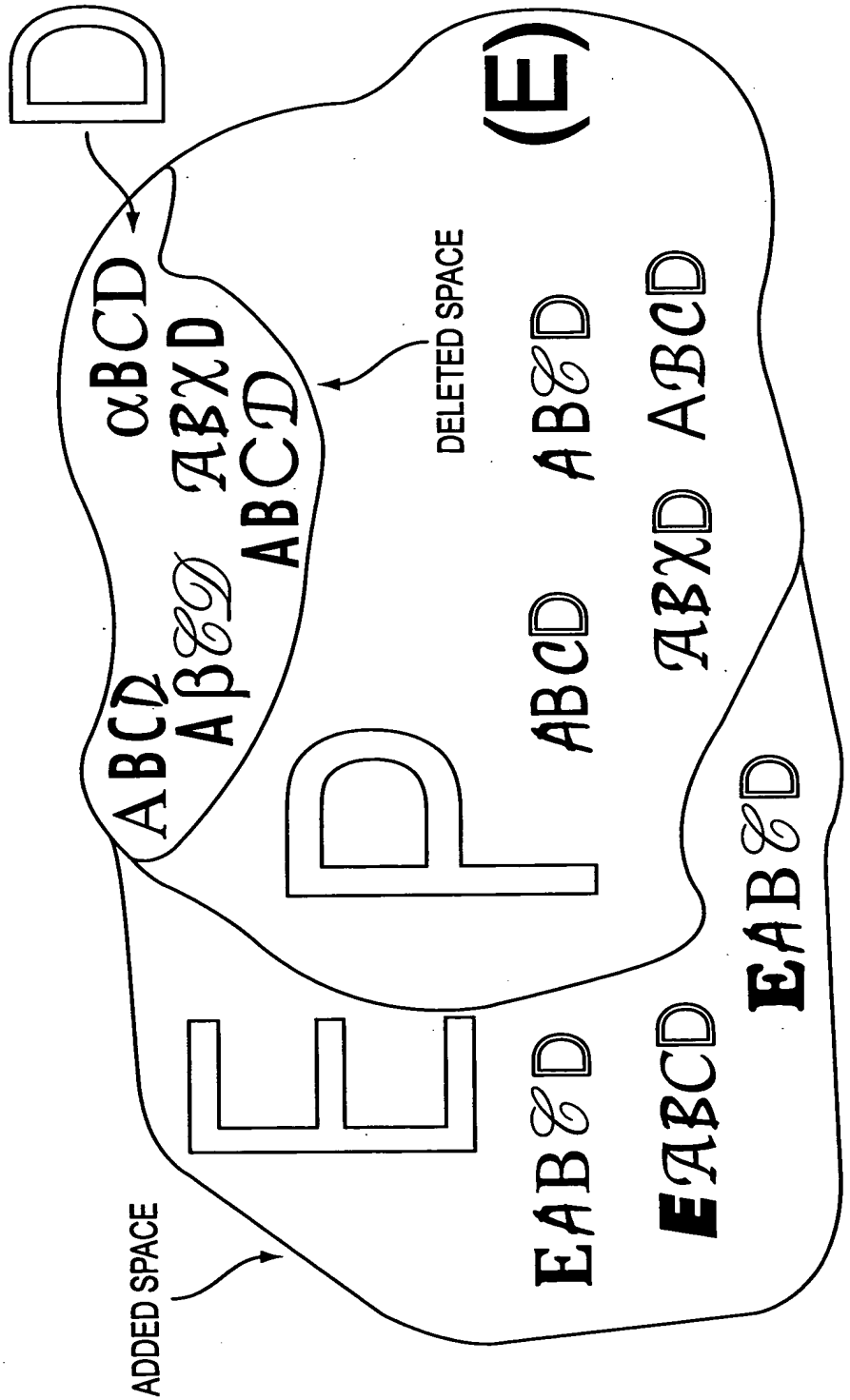

FIG. 21

L65198/bc